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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,383	06/25/2003	Yun Young Choi	30205/39428	2766
4743	7590	07/27/2004	EXAMINER	
MARSHALL, GERSTEIN & BORUN LLP 6300 SEARS TOWER 233 S. WACKER DRIVE CHICAGO, IL 60606			CHANG, JOSEPH	
			ART UNIT	PAPER NUMBER
			2817	

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/603,383

Applicant(s)

CHOI, YUN YOUNG

Examiner

Joseph Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☒ Claim(s) 5 and 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/25/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Drawings*

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the **“decoder” as it relates to the claims 4-6** must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Specification*

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the **“decoder” as it relates to the claims 4-6**.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by (US 6031425).

Regarding Claims 1, Hasegawa discloses in figure 4, a PLL comprising: a phase comparator (14) for comparing a reference frequency of an external clock signal with a

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comparison frequency of a comparison clock signal (phase comparator intrinsic functionality); a filter (17) for filtering an output signal from the phase comparator (filter intrinsic functionality); a VCO (18) for generating a clock signal of frequency proportional to a DC signal from the filter (VCO intrinsic functionality); a prescaler (19) for selectively dividing the output clock signal (fvco) from the voltage control oscillator by using at least two division ratios ( $1/M$ ,  $1/(M+1)$ ); a program counter (20) for dividing an output signal ( $P_{out}$ ) from the prescaler (19) with a predetermined division ratio ( $N$ ), and outputting the comparison clock signal ( $f_p$ ) having the comparison frequency; a swallow counter (21) for controlling the division ratio of the prescaler (col. 6, lines 26-27); and a controller (22) for outputting a control signal ( $MD$ ) to control frequency division of the VCO (sends L level and H level to control the division ratio) by using set points ( $M$ ,  $M+1$ ) of the prescaler (19), the swallow counter (21) and the program counter (20) (Col. 6, lines 30-44).

Regarding Claim 2, Col. 6, lines 30-44 discloses that the prescaler (19) is set at large one ( $M+1$ ) of the two division ratios ( $1/M$ ,  $1/(M+1)$ ) while the swallow counter operates (until the swallow counter counts 'A' pulses).

Regarding Claim 3, Col. 6, lines 30-44 discloses that the prescaler (19) is set at small one ( $M$ ) of the two division ratios ( $1/M$ ,  $1/(M+1)$ ) when the swallow counter counts a pulse ('A') by the set point ( $M$ ).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa.

As noted above in the claims 1 and 2 rejection, Hasegawa discloses in figure 4, a PLL comprising: a phase comparator, a filter, a VCO, a prescaler, a program counter, a swallow counter, and a controller. However, Hasegawa does not explicitly disclose that the controller is a decoder. One of ordinary skill in the art would have recognized that the controller is a form of a decoder because the controller is functionally decoding the two inputs from the two counters and sending out the MD control signal. Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention to recognize that the controller is a form of a decoder because such a decoder would have been required in order to decode the two inputs from the counters and sends out the MD control signal.

### ***Allowable Subject Matter***

Claims 5-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the best prior art of record, Hasegawa, taken alone or in combination of other references, does not teach or fairly suggest "the bit number of output bits, the whole counter set point".

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yamashita et al. discloses a PLL having a swallow counter and a prescaler for a slip phase control.

Kamikubo et al discloses a PLL having a swallow counter and a prescaler for a short lockup time.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Chang whose telephone number is 571 272-1759. The examiner can normally be reached on Mon-Fri 0700-1730.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Joseph Chang", written in a cursive style.

Joseph Chang  
Patent Examiner  
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JC